

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions and listings of the claims in this application.

Listing of the Claims:

1. (Withdrawn) A moldable-foam molding with a density from 8 to 100 g/l, said molding obtainable via fusion of prefoamed foam beads comprising expandable, pelletized thermoplastic polymer materials, said polymer materials comprising;

from 50 to 90% by weight of polystyrene B selected from free-radical-polymerized glass-clear polystyrene (GPPS) or anionically polymerized polystyrene (APS), and

from 10 to 50% by weight of styrene copolymer A selected from styrene-butadiene block copolymer, styrene- α -methylstyrene copolymer, acrylonitrile-butadiene-styrene (ABS), styrene-acrylonitrile (SAN), acrylonitrile-styrene-acrylate (ASA), methacrylate-butadiene-styrene (MBS), or methyl methacrylate-acrylonitrile-butadiene-styrene (MABS) polymers.

2. (Withdrawn) The moldable-foam molding according to claim 1, wherein at least 80% of the cells of the foam beads are of closed-cell type.

3. (Withdrawn) An expandable, pelletized thermoplastic polymer material which comprises;

from 50 to 90% by weight of polystyrene B selected from free-radical-polymerized glass-clear polystyrene (GPPS) or anionically polymerized polystyrene (APS), and

from 10 to 50% by weight of styrene copolymer A selected from styrene-butadiene block copolymer, styrene- α -methylstyrene copolymer, acrylonitrile-butadiene-styrene (ABS), styrene-acrylonitrile (SAN), acrylonitrile-styrene-acrylate (ASA), methacrylate-butadiene-styrene (MBS), or methyl methacrylate-acrylonitrile-butadiene-styrene (MABS) polymers.

4. (Withdrawn and Currently amended) The expandable, pelletized thermoplastic polymer material according to ~~claim 3~~ claim 5, further comprising from 3 to 7% by weight of an organic blowing agent.

5. (Currently amended) A process for preparing expandable, pelletized thermoplastic polymer materials ~~according to claim 3~~, comprising the steps of;

a) preparing a mixture from 50 to 90% by weight of polystyrene B selected from free-radical-polymerized glass-clear polystyrene (GPPS) or anionically polymerized polystyrene (APS), and from 10 to 50% by weight of styrene copolymer A selected from styrene-butadiene block copolymer, styrene- α -methylstyrene copolymer, acrylonitrile-butadiene-styrene (ABS), styrene-acrylonitrile (SAN), acrylonitrile-styrene-acrylate (ASA), methacrylate-butadiene-styrene (MBS), or methyl methacrylate-acrylonitrile-butadiene-styrene (MABS) polymers;

b) heating the mixture using a static or dynamic mixer at a temperature of at least 150°C to form a polymer melt, and adding an organic blowing agent to the melt;

c) cooling the polymer melt comprising the blowing agents agent to a temperature of at least 120°C,

d) discharging the cooled polymer melt through a die with holes whose diameter is at most 1.5 mm, and

e) pelletizing the polymer melt comprising the blowing agent downstream of the die plate under water at a pressure from 1 to 20 bar.

6. (Withdrawn) A process for producing moldable-foam moldings, according to claim 1, wherein hot air or steam is used in a first step to prefoam expandable, pelletized thermoplastic polymer materials according to claim 3 to give foam beads whose density is in the range from 8 to 100 g/l, and, in a second step, the polymer materials are fused in a closed mold.

7. (Previously presented) A process for making foam molding comprising injecting hot air or steam into a polymer mixture comprising from 50 to 90% by weight of polystyrene B selected from free-radical-polymerized glass-clear polystyrene (GPPS) or anionically polymerized polystyrene (APS), and from 10 to 50% by weight of styrene copolymer A selected from styrene-butadiene block copolymer, styrene- α -methylstyrene copolymer, acrylonitrile-butadiene-styrene (ABS), styrene-acrylonitrile (SAN), acrylonitrile-styrene-acrylate (ASA), methacrylate-butadiene-styrene (MBS), or methyl methacrylate-acrylonitrile-butadiene-styrene (MABS) polymers to form beads with a density from 8 to 100 g/L, the process comprising:

heating the mixture using a static or dynamic mixer at a temperature of at least 150°C to form a polymer melt, and adding an organic blowing agent to the melt;

cooling the polymer melt comprising blowing agents to a temperature of at least 120°C;

discharging the cooled melt through a die with holes whose diameter is at most 1.5 mm;
and

pelletizing the melt comprising blowing agent downstream of the die plate under water at a pressure from 1 to 20 bar.

8. (Previously presented) The process of claim 7, wherein the polymer mixture has a Mw from 190,000 to 400,000 g/mol.

9. (Withdrawn) The polymer material of claim 3, wherein the polymer mixture has a Mw from 190,000 to 400,000 g/mol.

10. (Previously presented) The process of claim 7, wherein the polymer mixture has a polydispersity Mw/Mn of at most 3.5 or less.

11. (Previously presented) The process of claim 10, wherein the polydispersity is from 1.5 to 2.8.

12. (Withdrawn) The polymer material of claim 3, with a polydispersity M_w/M_n of from 1.5 to 2.8.
13. (New) The process of claim 5, wherein the polymer melt comprising the blowing agent is cooled to a temperature of 100 to 200°C.
14. (New) The process of claim 5, wherein the polymer melt comprising the blowing agent downstream of the die plate under water is pelletized at a pressure from 5 to 15 bar.
15. (New) The process of claim 5, wherein the temperature of the polymer melt comprising the blowing agent, when it is passed through the die plate, is in the range from 140 to 300°C.
16. (New) The process of claim 5, wherein the temperature of the die plate is from 20 to 100 300°C, above the temperature of the polymer melt comprising blowing agent.